

Technical Page

Proposal Type: Regular
 General Category: Astronomy
 Sub-Category: Continuum
 Observation Category: Extragalactic
 Total Time Requested: 28 Hours
 Minimum Useful Time: 5 hours

Proposal Title: A High-Sensitivity Search for HI-Absorption between 700 and 800 MHz in a Small Unbiased Sample of Radio Sources

ABSTRACT:

We propose a 28-hr study of the absorption characteristics of an unbiased sample of 8 radio sources at redshifts close to unity using the 800-MHz receiver. This includes the BL-Lac object 0235+164 and an unrelated intervening absorber. Models suggest that the fueling mechanism for central supermassive black holes is driven by nuclear gas, whether atomic, molecular, ionized, or some mixture of these. Mergers or interactions with companion galaxies would trigger gas infall to the nuclear region, whereas the presence of jets would drive gas out of the system. Investigation of the kinematics of the gas present in such systems is thus essential. Given the strong radio continuum emission of these sources, HI absorption provides the optimal method for studying the presence and dynamics of atomic gas within them.

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Remote Observing Request

- Observer will travel to AO
- Remote Observing
- In Absentia (instructions to operator)

Instrument Setup

705-825

Atmospheric Observation Instruments:

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned